

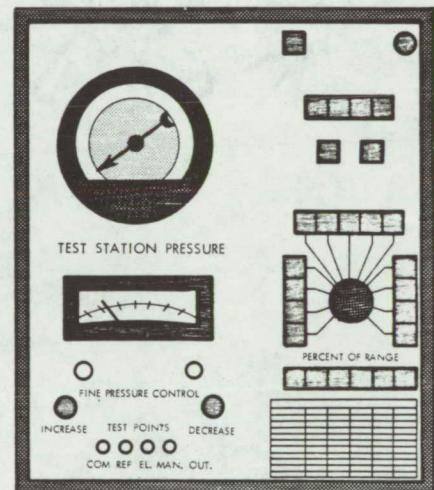
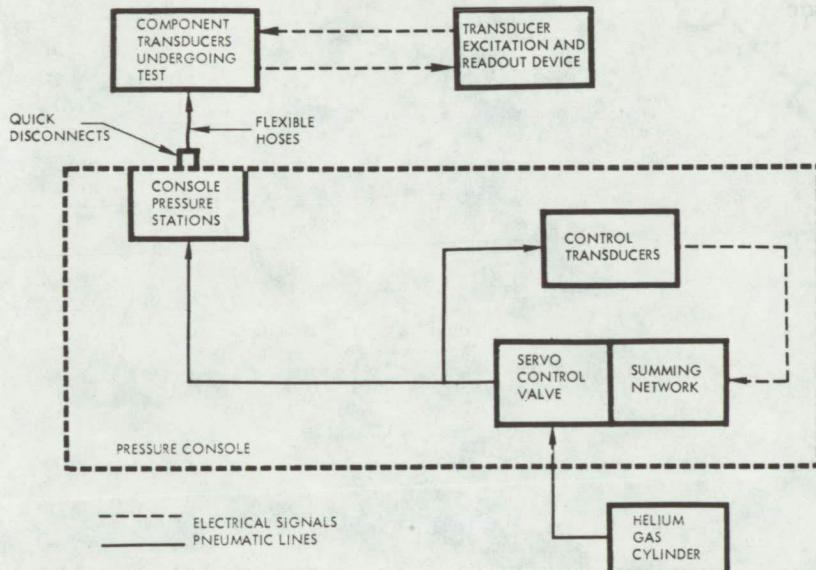


AEC-NASA TECH BRIEF



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Automated Tester Permits Precise Calibration of Pressure Transducers from 0 to 1050 psi



The problem:

During the testing of the nuclear rocket engine many pressure transducers are required to control and monitor the performance of the engine. It is necessary to calibrate these transducers immediately prior to an actual test run. This generated the need for a portable, accurate, fast, reliable pressure transducer checker.

The solution:

An automated portable transducer checker consisting of a pressure console and equipment capable of producing test pressures of 0-1050 psi. The console can be interconnected to other equipment required for

measurement and visual display of the electrical output of the transducers undergoing test.

How it's done:

The pressure transducers undergoing calibration are connected by flexible hoses to quick disconnect pressure stations mounted on the rear of the console. The console is connected to a 2000 psi helium gas cylinder which provides the desired test pressure over the range of 0-1050 psi.

Two sets of pushbuttons are located on the console panel by which the tester can be set to supply any desired pressure in the range of 0-1050 psi. A table printed on the console face gives settings required in terms of any desired pressure.

(continued overleaf)

The checker utilizes a servo control valve and a summing network to provide the exact pressure desired to the transducer undergoing test.

An electric motor-driven vacuum pump permits testing with an absolute reference point. The pump has a capacity of 21 liters/minute and can evacuate the system to less than 28 inches of mercury. Output of the transducers undergoing test can be shown on a strip recorder or other types of display equipment. Controls on the pressure console provide an accuracy within ± 0.05 percent of actual pressure.

Note:

Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
AEC-NASA Space Nuclear Propulsion
Office
U.S. Atomic Energy Commission
Washington, D.C. 20545
Reference: B67-10263

Patent status:

No patent action is contemplated by AEC or NASA.

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